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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,287	02/02/2007	Kouichi Tamura	295086US0PCT	9220

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER
GRUN, JAMES LESLIE

ART UNIT	PAPER NUMBER
1641	

NOTIFICATION DATE	DELIVERY MODE
06/25/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/591,287	TAMURA ET AL.	
	Examiner	Art Unit	
	JAMES L. GRUN	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/29/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claims 1-18 remain in the case.

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4 and 8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. There is no indication that the product(s) as claimed are isolated and no claimed degree of purity for the product(s) which would indicate "the hand of man". Thus, the products as claimed are considered a product of nature which is non-statutory subject matter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 and claims dependent thereupon, "the FK778 substance" lacks antecedent basis and is not clear what is encompassed.

In claim 3, "the class" lacks antecedent basis.

In claim 5, it is believed that --a-- cell and antibodies capable of --binding-- were intended.

The term "highly-sensitive" in claims 9-14 is a relative term which renders the claims indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. In these claims, recitations of "the FK778 substance" lack antecedent basis and are not clear what is encompassed.

Claims 10 and 11 are method claims and, as such, they should clearly set forth the various method steps in a positive, sequential manner using active tense verbs such as mixing, reacting, and detecting. "Employing" or "using" are not valid method steps.

In claims 12 and 13, "said first antibody" lacks antecedent basis.

In claim 14, "said second antibody" lacks antecedent basis and is not clear as to what is being further limited as the antibody of claim 9 is already immobilized.

In claim 15 and claims dependent thereupon, recitations of "the FK778" substance and amount lack antecedent basis.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
> (c) Subject matter developed by another person, which qualifies as prior art only under one or more subsections (e), (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.
>
> This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 1-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Bartlett et al. (US 5,308,865), Kobayashi et al. (WO 03/086391), Johnston et al. (J. Clin. Pharmacol. 52: 615, 2001), Birsan et al. (Transpl. Int. 16: 354, 2003), Sedrani et al. (US 6,635,745), and applicant's admissions.

Bartlett et al. and Kobayashi et al. teach therapeutic methods and compositions comprising the FK778 drug. In contrast to the invention as instantly claimed, the references do not teach monitoring drug levels in subjects or antibodies specific for the drug to perform immunoassays.

Birsan et al. teach monitoring of the FK778 levels in subjects treated with FK778.

Johnston et al. teach drug monitoring for immunosuppressant drugs using immunoassays.

Sedrani et al. teach conjugation of an immunosuppressant drug through reactive groups such as hydroxyl groups and conventional competitive immunoassay formats and kits for determination of the drug (see e.g. cols. 13-14).

The specification of this application establishes that conventional methods for preparing FK778 conjugates through linkers used in the preparation of immunogens, tracers and hapten-specific antibodies are well known in the art (see e.g. pages 8-9).

It would have been obvious to one of ordinary skill in the art at the time the instant invention was made to have elicited antibodies to the FK778 drug as disclosed by Bartlett et al. or Kobayashi et al. because the FK778 drug is of unquestioned research and clinical interest, it is conventional in the art to elicit antibodies to drugs for a variety of uses, such as drug monitoring, as taught in Johnston et al. or Sedrani et al., and one of ordinary skill in the art would have had an extremely reasonable expectation of success in achieving the expected result, i.e. generating

antibodies, either polyclonal or monoclonal antibodies specifically reactive with the FK778 drug, using conventional linkers with available reactive groups, as taught in Sedrani et al. or as admitted by applicant, in conjunction with notoriously old and well known conventional immunization and cell fusion techniques. See Ex parte Erlich (3 USPQ2d 1011 (BPAI 1987)). One would have been motivated to monitor the drug levels in subjects treated with the drug in view of the direct suggestion in Birsan et al. to do so and would have been motivated to use an immunoassay therefore for the ease and high throughput afforded by an immunoassay compared to the high pressure liquid chromatography methods of Birsan et al. It would have been obvious to have generated monoclonal antibodies in order to provide a potentially unlimited source of homogeneous reagent. It would have been further obvious to formulate the reagents to perform the immunoassay into a kit since that is conventional for convenience, economy, and reproducibility, as taught in Sedrani et al.

Thus, the claimed invention as a whole was clearly prima facie obvious, especially in the absence of evidence to the contrary.

The art made of record and not relied upon is considered pertinent to applicant's disclosure.

Spring et al. (US 7,256,008) teach competitive immunoassays for determination of FK778.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James L. Grun, Ph.D., whose telephone number is (571) 272-0821. The examiner can normally be reached on weekdays from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, SPE, can be contacted at (571) 272-0823.

The phone number for official facsimile transmitted communications to TC 1600, Group 1640, is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application, or requests to supply missing elements from Office communications, should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. L. G./
James L. Grun, Ph.D.
Examiner, Art Unit 1641
June 24, 2008

/Long V Le/
Supervisory Patent Examiner, Art Unit 1641